Product Manager Firefinder
U.S. Army Communications-Electronics Command
Fort Monmouth, New Jersey 07703-5000

Maintenance Bulletin

AN/TPQ-36 Radar Systems	FILE NO. 166	REVISION:
	DATE: 1 MAR 04	CATEGROY: O/DS MAINT
SUBJECT: MAPS Alignment Verification	SYSTEMS AFFECTED: AN/TPQ-36 (V)7, 8	

1. **Reference**:
   N/A

2. **Scope**.
   All AN/TPQ-36 systems that are equipped with **Modular Azimuth Positioning System (MAPS)** must perform alignment verification.

3. **Tools and Support Equipment**.
   Firefinder ORG Toolkit
   RTV Sealant
   PADS or other survey device that is capable of **4th Order survey**

4. **Description** **NSN** **Part No.** **QTY**
   None

5. **Q-36 Verification Procedure.**

STEP 1: Verify Boresight Telescope Alignment.

(V5/V7 Only) Perform Check and Service Boresight Telescope as per TM 11-5840-378-20&P (Dated 1 JAN 98 w change 2) page 3-73. If necessary perform Boresight Alignment on page 3-224.10.

(V8 Only) Perform Check and Service Boresight Telescope as per TM 11-5840-380-23-1 (DRAFT Dated 1 FEB 02), page 4-22. If necessary perform Boresight Alignment on page 4-632.

STEP 2: Survey.

Establish a 4th Order (or better) survey and a far stake (4) with known azimuth at a distance of 1000 meters minimum.

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5. Q-36 Verification Procedure (Cont.)

STEP 3: DRUH Precision Alignment Plate Verification.

A. Manually rotate the antenna to the operational position and lock the antenna in place by placing the azimuth alignment pin through the alignment bracket on the side of the ATG and into the alignment plate located on the roadside fender. Begin the alignment by first protecting the plumb bob string from the wind by shielding it by any available means. Roughly align the ATG boresight telescope with the far stake by placing the ATG plumb bob over the survey point to within 1-2 centimeters of center of survey pin. Begin the process of moving the ATG on the jack pads while maintaining the boresight telescope alignment with the far stake (2-3 persons required – 1-boresight telescope, 2-front of ATG, 3- rear ATG).

B. Precisely level ATG using trailer leveling jacks (5) and observing elevation tilt and cross tilt bubbles (1) under tilt sensor (3).

C. Place the ATG plumb bob over the survey point to within 5 millimeters of center by moving the ATG on the jack pads as necessary.

Note: When A - C are completed, radar boresight scope should have vertical portion of cross-hair aligned with the far stake established in Step 2. It maybe easier to establish angle to far stake after A & B are accomplished. Do this by placing far stake so it is in alignment with boresight scope and then have surveyors establish the angle between radar and far stake. This alternative method requires radar be pointed generally in proper direction but eliminates the need to physically adjusting the complete radar to align boresight scope with far stake. Antenna alignment pin must remain installed in alignment bracket throughout this procedure.

D. Initialize MAPS using survey data (enter the zone, easting, northing, and altitude) when the ATG is leveled and sighted on the azimuth far stake (4).

E. After survey data input, allow the system to initialize at this survey point. The initialization process will take approximately 10 to 15 minutes to complete. Once complete depress the AZ key on the RDU to display the current azimuth position. Compare MAPS azimuth with surveyed far stake azimuth (4). This must be within 1 mil of the survey point azimuth.

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5. Q-36 Verification Procedure (Cont.)

STEP 4: Notify PM Firefinder of results.

The unit should record the known Survey Point Azimuth, the MAPS Azimuth reading from the RDU, and the distance to the far stake used and send this data to PM Firefinder along with the ATG Serial number, date of verification, person completing verification, and unit. Send report to: Ken Pickett at kenneth.pickett@iews.monmouth.army.mil or DSN 987-5069/COM 732-427-5069/FAX 5930

If MAPS alignment is within spec, send correspondence to PM Firefinder with the above data.

If MAPS alignment difference is greater than 1 mil then the DRUH Mounting Plate maybe installed incorrectly or your trailer may have structural damage. Notify PM Firefinder immediately with the above data to coordinate for DEPOT team to evaluate and re-align the plate. Use manual survey until DRU plate alignment is corrected.

Note: This procedure will be added to the PMCS section of next change to TM 11-5840-378-20&P (for V5/V7) and TM 11-5840-380-23-1 (for V8). This will be a semiannual verification.

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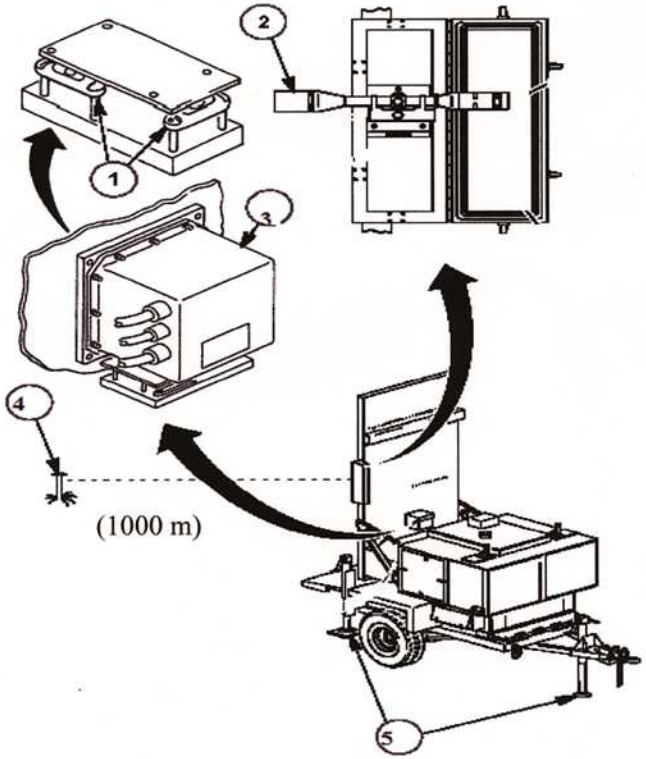
5. Q-36 Verification Procedure (Cont.)



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